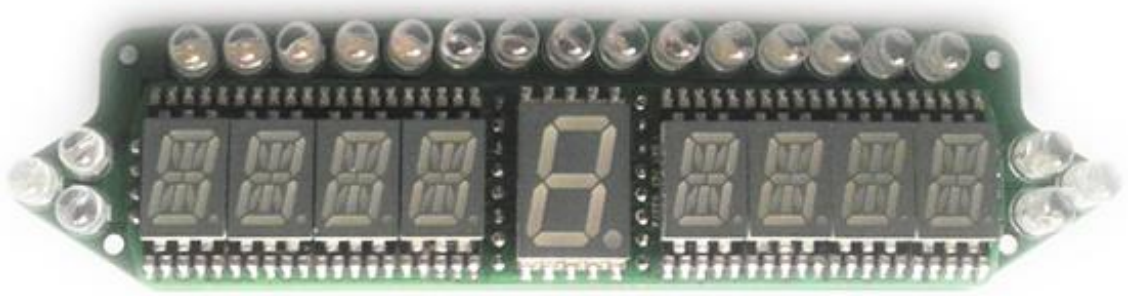
SIMR-F1

USER MANUAL

Rev A. - C.



SIM Display © 2013

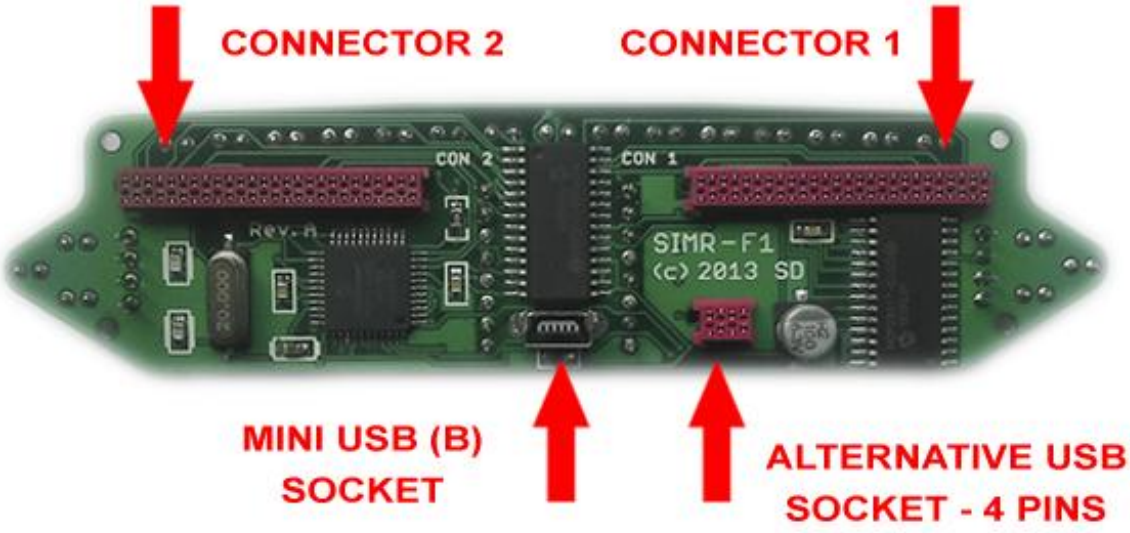
22. October 2013

Introduction

SIM Race F1 has 21 bright lights and gear indicator. You can display various data on four digit displays on each side. Brightness is adjustable in software. Direct connection for up to 32 buttons. You can also connect encoders, potentiometers, external lights and rotary switches. We recommend to connect buttons and rotary switches to take the full advantages of display. Device requires power for its operation and it needs to be plugged into USB port.

WARNING:

Please unplug device from your PC before making any connections !!!



Connector 1

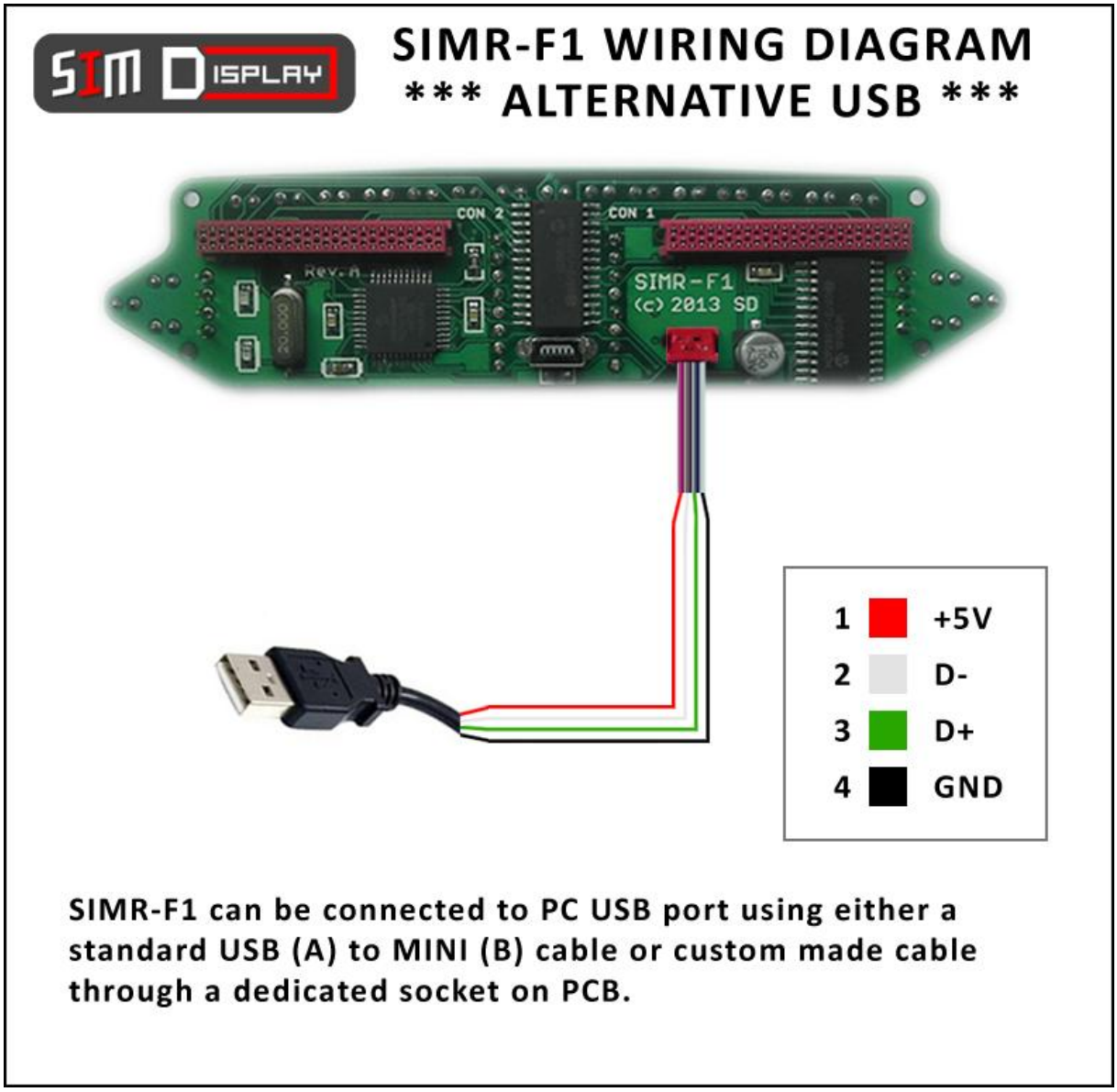
PIN	COLOR		BASIC FUNCTION	OPTIONAL
1		Brown	**GND**	-
2		Red	Button 1	Rotary Encoder 1
3		Orange	Button 2	
4		Yellow	Button 3	Rotary Encoder 2
5		Green	Button 4	
6		Blue	Button 5	Rotary Encoder 3
7		Violet	Button 6	
8		Gray	Button 7	Rotary Encoder 4
9		White	Button 8	
10		Black	Button 9	Rotary Encoder 5
11		Brown	Button 10	
12		Red	Button 11	Rotary Encoder 6
13		Orange	Button 12	
14		Yellow	Button 13	Rotary Encoder 7
15		Green	Button 14	
16		Blue	Button 15	Rotary Encoder 8
17		Violet	Button 16	
18		Gray	Button 17	Rotary Encoder 9
19		White	Button 18	
20		Black	Button 19	Rotary Encoder 10
21		Brown	Button 20	
22		Red	Button 21	Rotary Encoder 11
23		Orange	Button 22	
24		Yellow	Button 23	Rotary Encoder 12
25		Green	Button 24	
26		Blue	**+5V**	

Connector 2

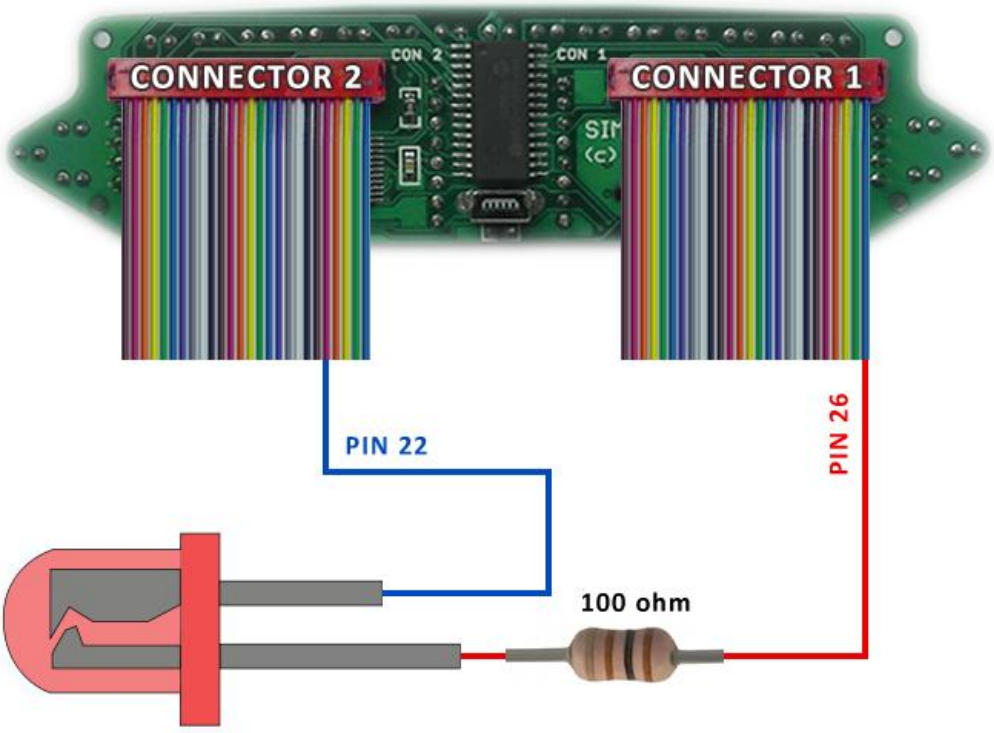
PIN	COLOR		BASIC FUNCTION	OPTIONAL
1		Brown	Button 25	Rotary Encoder 13
2		Red	Button 26	
3		Orange	Button 27	Rotary Encoder 14
4		Yellow	Button 28	
5		Green	Button 29	Rotary Encoder 15
6		Blue	Button 30	
7		Violet	Button 31	Rotary Encoder 16
8		Gray	Button 32	
9		White	Analog Input 1	
10		Black	Analog Input 2	
11		Brown	Rotary Switch 1	
12		Red	Rotary Switch 2	
13		Orange	Rotary Switch 3	
14		Yellow	Rotary Switch 4	
15		Green	Rotary Switch 5	
16		Blue	Rotary Switch 6	
17		Violet	Rotary Switch 7	
18		Gray	Rotary Switch 8	
19		White	Rotary Switch 9	
20		Black	External LED 1	
21		Brown	External LED 2	
22		Red	External LED 3	
23		Orange	External LED 4	
24		Yellow	External LED 5	
25		Green	External LED 6	
26		Blue	External LED 7	

Alternative USB Connector

PIN	COLOR		NAME	STANDARD USB WIRE
1		Red	VCC	**RED**
2		Brown	D -	**WHITE**
3		Black	D +	**GREEN**
4		White	GND	**BLACK**

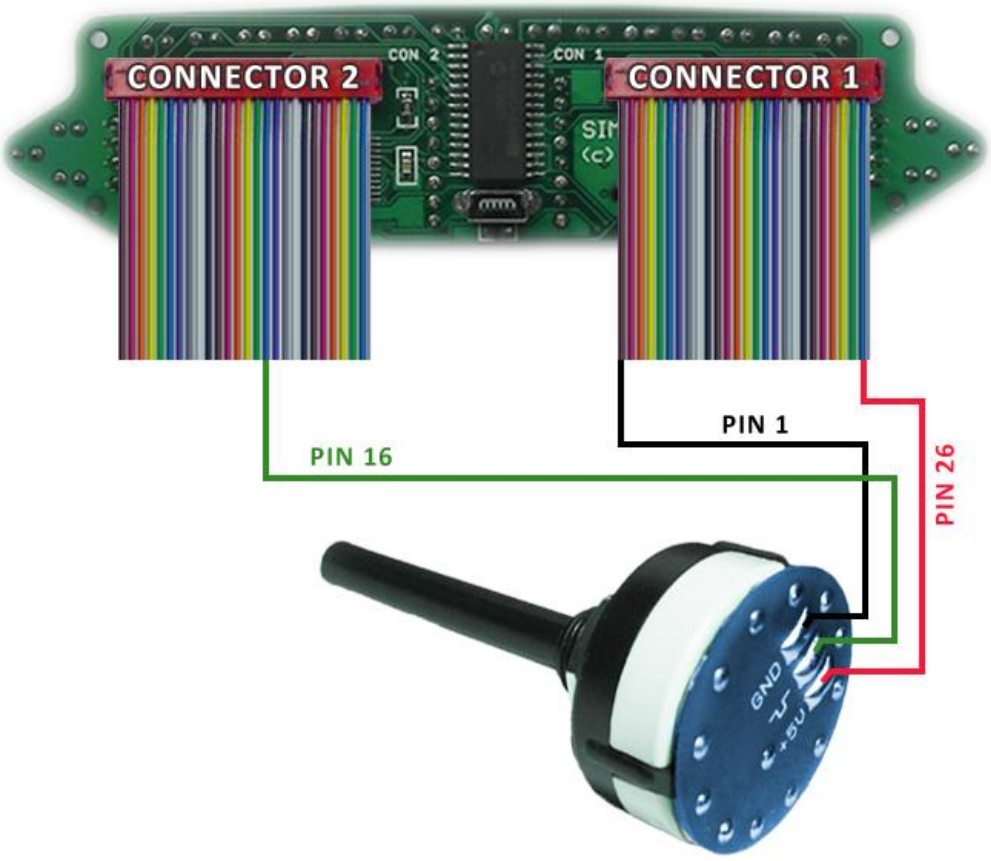

SIM DISPLAY
SIMR-F1 WIRING DIAGRAM
*** ALTERNATIVE USB ***
CON 2
CON 1
SIMR-F1
(c) 2013 SD
1 +5V
2 D-
3 D+
4 GND
SIMR-F1 can be connected to PC USB port using either a standard USB (A) to MINI (B) cable or custom made cable through a dedicated socket on PCB.

SIMR-F1 WIRING DIAGRAM
*** EXTERNAL LEDS ***



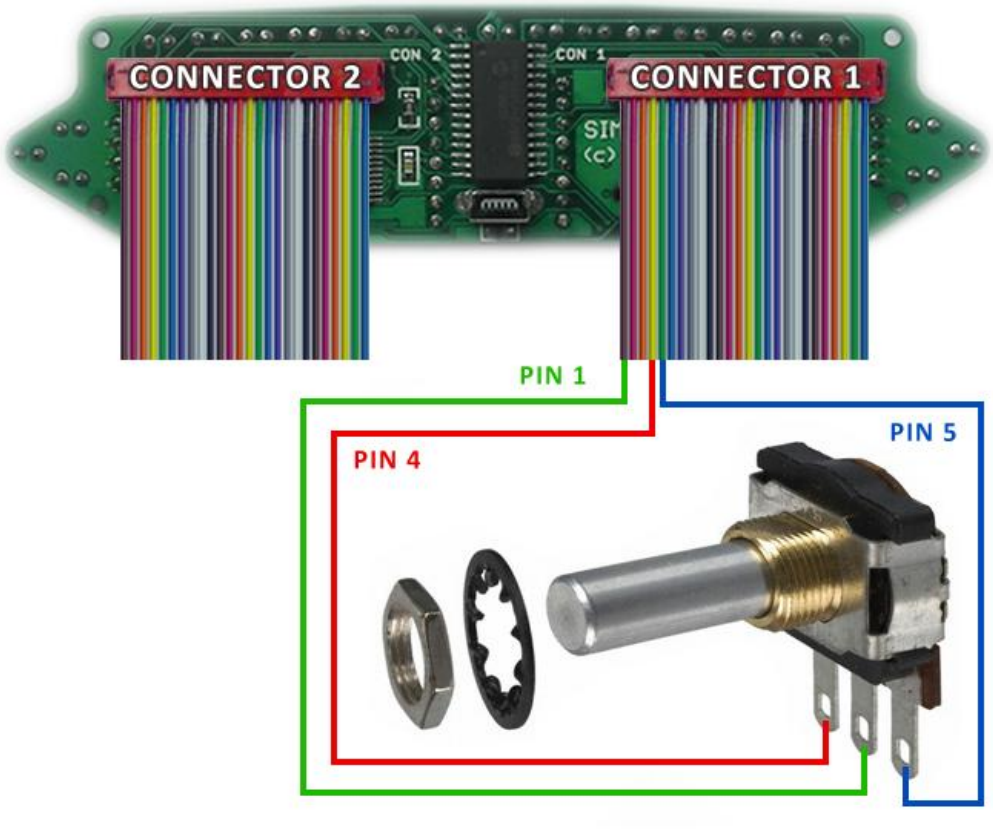
We recommend using resistor value between 50 and 100 ohms. The use of resistors is optional and not mandatory. Use only if you need to lower the brightness.

SIMR-F1 WIRING DIAGRAM
*** ROTARY SWITCHES***



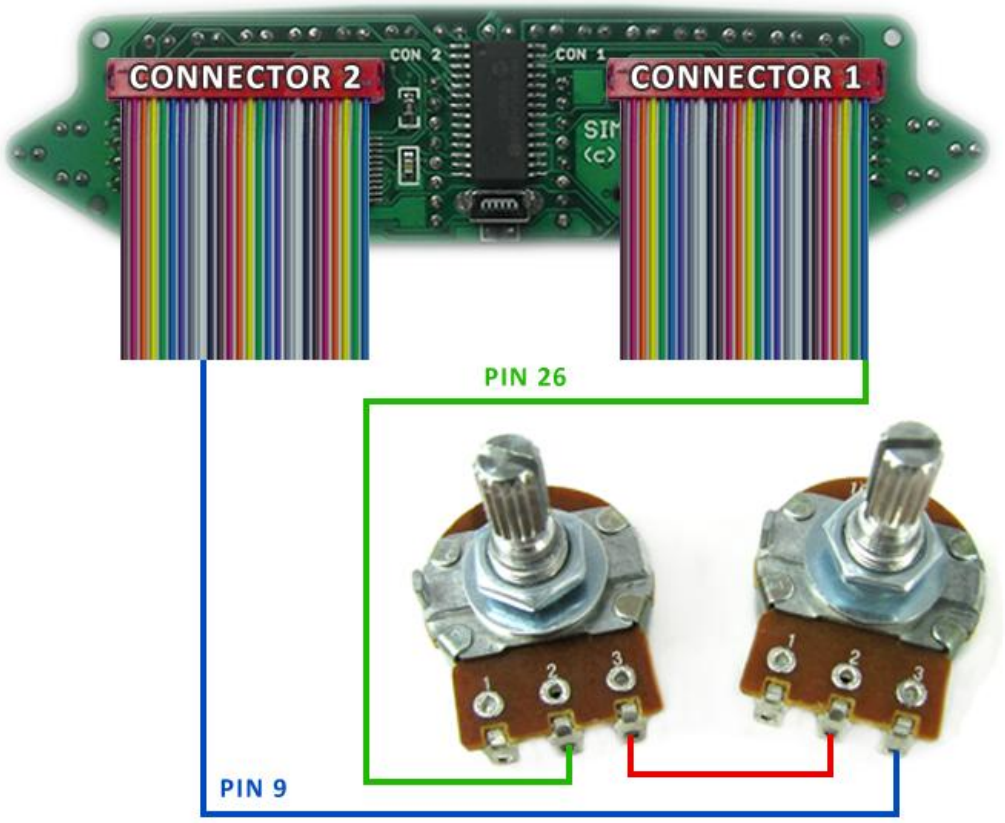
Please use rotary switches from SIM Display website only

SIMR-F1 WIRING DIAGRAM
*** ENCODERS ***



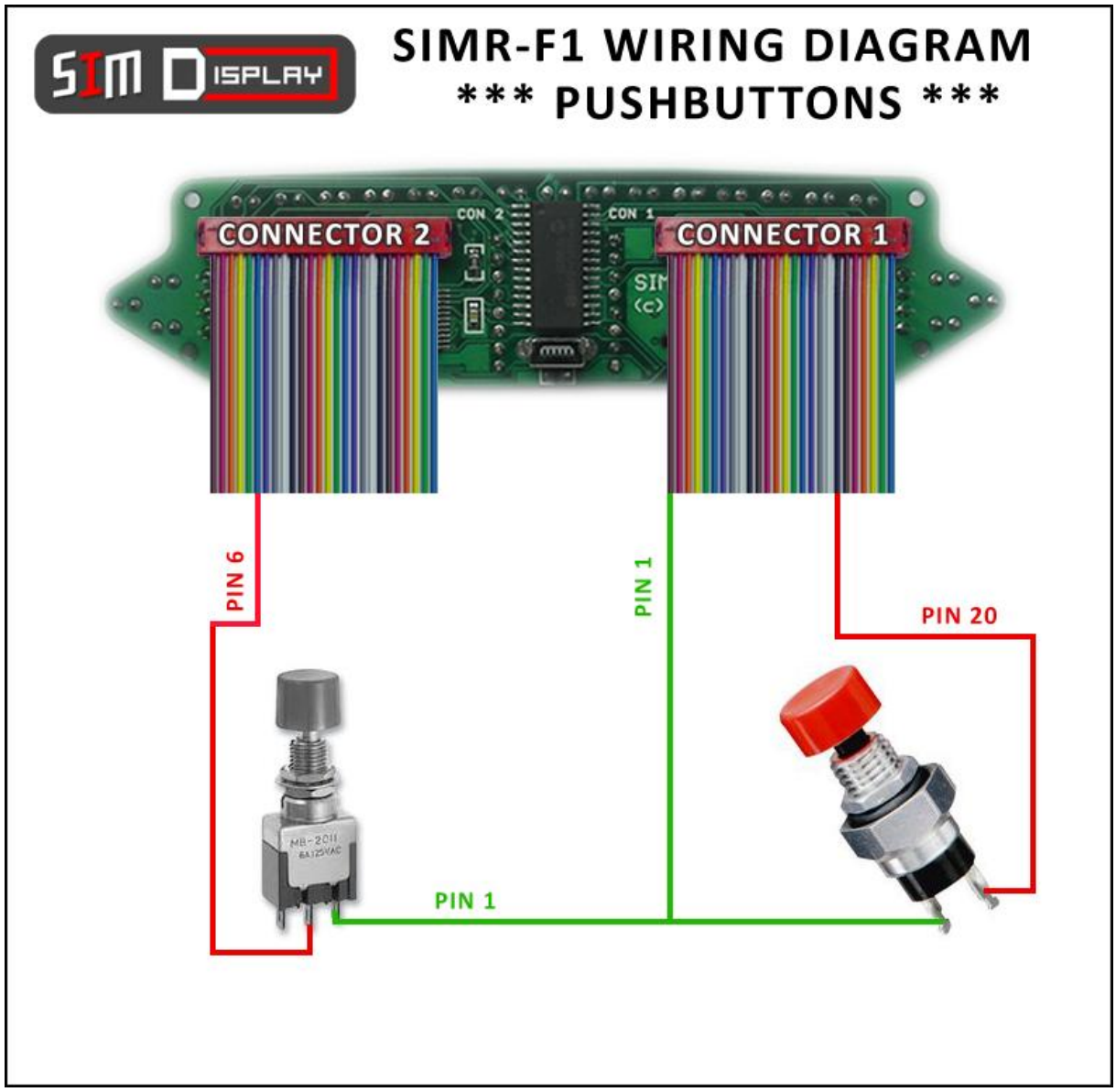
We recommend using encoders CTS-288

SIMR-F1 WIRING DIAGRAM
*** CLUTCHES ***

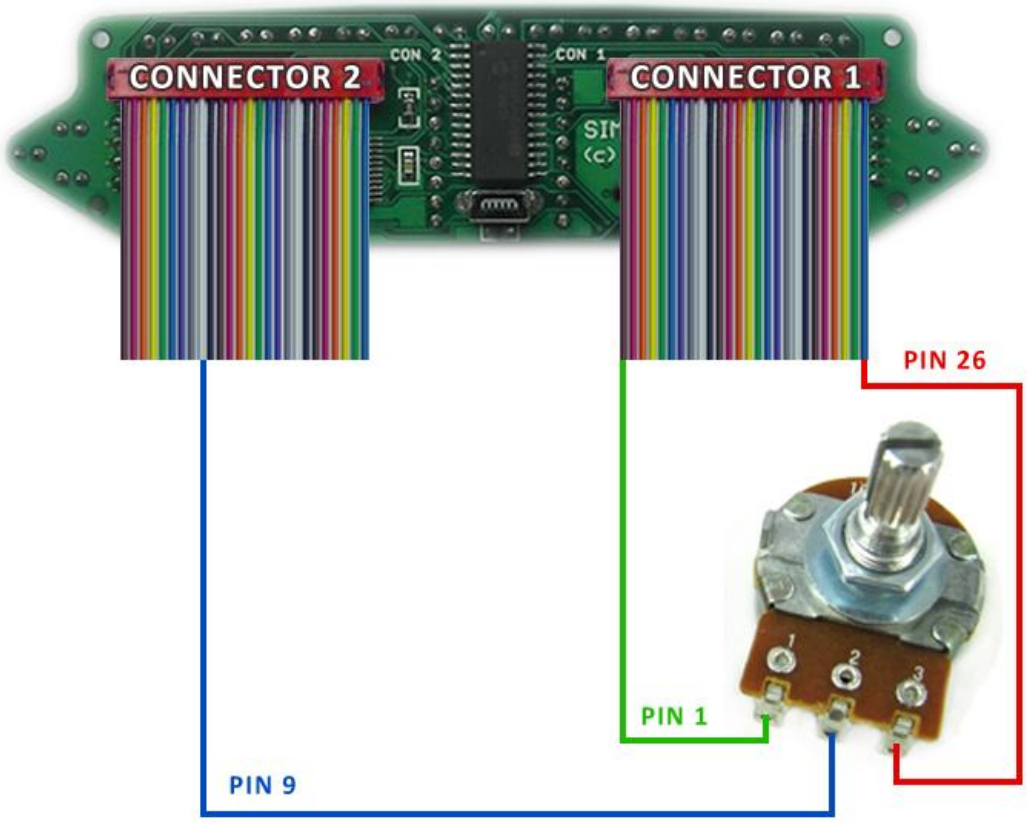


We recommend using two linear 10k potentiometers

SIMR-F1 WIRING DIAGRAM
*** PUSHBUTTONS ***

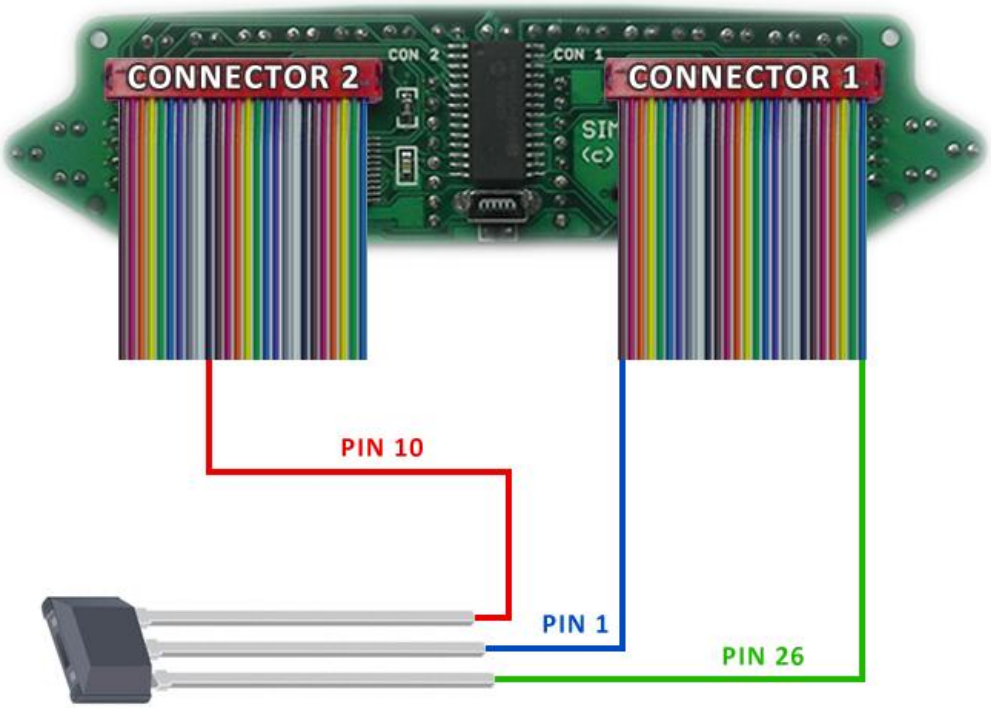


SIMR-F1 WIRING DIAGRAM
*** POTENTIOMETERS ***



We recommend using linear 10k potentiometer

SIMR-F1 WIRING DIAGRAM
*** HALL SENSOR A1302 ***



Please connect hall sensor directly to controller analog input.

Encoders Configuration Software

Example: We are using two rotary encoders. Please see picture below for proper setup in software: